City of Seattle
Department of Design, Construction and Land Use

August 1998

COMMERCIAL KITCHEN HOOD WORK SHEET/CHECK LIST

Two copies of this worksheet/checklist must accompany plan sets submitted with commercial kitchen range hood permit applications. It explains and organizes information needed by the Department of Design, Construction and Land Use to efficiently review plans and issue permits. DCLU will keep this document as part of the permanent project file and will use it to verify code compliance. The applicant is responsible for assuring the accuracy and consistency of the information.

A. Project Address: _____

B. Established use and history of building

Is it an existing restaurant, food processing area or food service area? ☐ Yes ☐ No

If no, provide construction or change of use permit number _____

C. Location of exterior ductwork and mechanical equipment

1. Is ductwork or mechanical equipment located outside of building other than roof top? ☐ Yes ☐ No

2. Applicant shall provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface air supply, exhaust system, and equipment support system including structural framing detail (Examples 1, 2, and 3).

D. Type of Hood

1. For grease and smoke removal: Type I _____ Quantity
   (Example: deep fryer, charbroilers, grill and roasting ovens)

2. For steam, vapor, heat or odor removal: Type II _____ Quantity
   (Example: steamer, pastry and pizza oven).
   Hood shall have a permanent, visible label identifying it as a Type II hood.

3. Is hood for solid fuel cooking equipment?
   If yes, a separate exhaust system is required. ☐ Yes ☐ No

E. Type of material and gage

	TYPE I HOOD			TYPE II HOOD	
	Type of Material	**Gage Min. Req.**	**Proposed**	**Gage Min. Req.**	**Proposed**
Duct and Plenum	Stainless Steel	18 Ga.	____ Ga.	24 Ga. Up to 12" dia.	____ Ga.
				22 Ga. Up to 30" dia.	____ Ga.
	Galvanized Steel	16 Ga.	____ Ga.	24 Ga. Up to 12" dia.	____ Ga.
				22 Ga. Up to 30" dia.	____ Ga.
Hood	Stainless Steel	22 Ga.	____ Ga.	22 Ga.	____ Ga.
	Galvanized Steel	22 Ga.	____ Ga.	24 Ga.	____ Ga.
Flashing	Stainless Steel	22 Ga.	____ Ga.	NOT REQUIRED	
	Galvanized Steel	22 Ga.	____ Ga.		

F. Quantity of air exhausted through the hood

CANOPY HOOD	NON-CANOPY HOOD
Hood shall extend beyond cooking surface on all open sides not less than Min. 6" Proposed ____ in. Distance between lip of hood and edge of cooking surface shall not exceed Max. 4' Proposed ____ ft. Cooking surface area = _____ X _____ = _____ft^2 Hood area (A) = _____ X _____ = _____ft^2	N = no. of hood sides exposed Q = quantity of air A = area of hood in ft^2 L = lineal feet of the front cooking equipment surface
TYPE I (N = 4 Q= 150A = 150 X _____ _____ cfm. HOOD (N = 3 or less Q = 100A = 100 X _____ = _____ cfm.	Q = 300L Q = 300 X_____=_____cfm.
TYPE II (N = 4 Q = 75A = 75 X _____ = _____ cfm. HOOD (N = 3 or less Q = 50A = 50 X _____ = _____ cfm.	Q = 150L Q = 150 X_____=_____cfm.

G. Exhaust duct system

1. Applicant shall provide the specified air velocity in exhaust duct.
2. Duct size _____ in. x _____ in., duct area = $\frac{\text{_____ in. x _____ in}}{144}$ = _____ft^2

Type of Hood	Air Velocity (FPM)	CFM/Duct Area (Ft^2)	Proposed Air Velocity
I	Req. 1500 to 2500	_____/_____	= _____ FPM
II	Recom. 500 to 2500	_____/_____	= _____ FPM

2. Static pressure loss

   duct _____in. + grease filters/extractor _____ in. + other _____in. = Total _____in. of H_2O.

3. Fan and Motor shall be of sufficient capacity to provide the required air movement. Fan motor shall not be installed within ducts or under hood.

   Fan make and model_____ HP_____

   Static pressure _____ in. at _____ cfm.

H. Exhaust outlet location

1. Exhaust outlet shall terminate above roof

	Min. required	Proposed
Extend above roof	24 in.	_____ in.
Distance from same or adjacent building	10 ft.	_____ ft.
Distance above adjoining grade	10 ft.	_____ ft.
Distance from property line	10 ft.	_____ ft.
Distance from windows and doors	10 ft.	_____ ft.
Distance from mechanical air intake	10 ft.	_____ ft.
Distance of duct above adjoining grade at alley	16 ft.	_____ ft.

2. If exhaust outlet terminates at exterior wall, provide cleaning equipment. See Director's rules 5-96. ☐ Yes ☐ No

I. Makeup air

1. Applicant shall provide makeup air not less than 90% of the exhaust. _____cfm.
2. Makeup air system shall be electrically interlocked with the exhaust system, such that the makeup air system will operate when the exhaust system is in operation. Provide note on plan sheet no. _____ .
3. Makeup air shall be provided by a fan or motorized damper of sufficient capacity. Windows and door openings shall not be used for the purpose of providing makeup air.
4. If more than 2500 cfm supplied to the space other than the hood, provide heater capable of heating makeup air supplied to the space to 65 degrees F
   Heater model # _____ Input BTU _____ Output BTU _____
   Heater CFM _____ AFUE _____

FAN	**MOTORIZED DAMPER**
Make and model _____ H.P.	Recommended air velocity, 500 fpm
Static pressure _____ in. at cfm.	Duct area req. = cfm/500 fpm _____ /500 = _____ft^2
Duct Dimension _____, area _____ ft^2	Duct. Dimension req. = _____
Air velocity = cfm/area _____ /_____ = _____fpm	Eff. Damper opening _____ X _____ = _____ ft^2

J. Slope of duct and cleanout access

1. Horizontal duct less than 75' long min slope 1/4 in/ft proposed _____ in/ft
   more than 75' long min slope 1 in/ft proposed _____ in/ft

2. Tight-fitting cleanout doors shall be provided at every change in ductwork direction. Total no. proposed _____

K. Duct enclosure

1. Ducts penetrating a ceiling, wall or floor shall be enclosed in a duct enclosure from the point of penetration to the outside air. A duct may only penetrate exterior walls at locations where unprotected openings are permitted by Table 5A of the 1997 Seattle Building Code.
2. For code compliance purposes, it is acceptable to assume that ducts penetrating concrete, brick or steel ceilings, walls or floors shall require a 2-hour fire-resistive duct enclosure, and for others, it shall be 1 hour.

Type of Const.	**Min. Fire-Resistive Const. of Enclosure**	**Proposed**	**Proposed Material and Construction**
I F.R., II F.R.	2 hour	____ hr.	_____
II, III, IV, V	1 hour	____ hr.	_____

3. Duct enclosures shall be separated from the duct by at least 3 and not more than 12 inches. Proposed_____ in.
4. Duct enclosure shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
5. Duct enclosures shall serve only one kitchen exhaust duct.
6. Tight-fitting access openings shall be provided at each cleanout door. Access enclosure doors shall have a fire-resistance rating equal to the enclosure.

L. Multiple hood venting

1. Number of hoods vented by a single duct system: _____
   A single duct system may serve more than one hood located in the same story of the building, provided that the interconnecting ducts do not penetrate any fire construction.
2. A hood outlet shall serve not more than a 12-foot section of hood.

M. Additional information for Type I hood only:

1. Grease filters shall be installed at minimum 45 degree angle and equipped with drip tray and gutter beneath lower edge of filters. Proposed _____ degrees.

2. Distance between lowest edge of grease filters and cooking surface of:
   Grill, fryer, exposed flame shall be not less than 2 ft. Proposed _____ ft.
   Exposed charcoal, charbroil shall be not less than 3-1/2 ft. Proposed _____ ft.

3. Type I hood and duct shall have clearances from combustible construction of: _____

UNPROTECTED		**PROTECTED with 1-Hour Fire-Rated Material**	
Hood Min. Req. 18 in.	Proposed _____ in.	Min. Req. 3 in.	Proposed _____ in.
Duct Min. Req. 18 in.	Proposed _____ in.	Min. Req. 3 in.	Proposed _____ in.

4. Hoods less than 12 inches from ceilings or walls shall be flashed solidly.

   Flashing provided ☐ Yes ☐ No Distance from ceiling _____ in., wall _____ in.

5. All joints and seams shall be made with continuous liquid-tight weld or braze made on the external surface of the duct system. Vibration insulation connector may be used provided it consists of noncombustible packing in a metal sleeve joint.

6. Centrifugal fans used for discharging grease exhaust shall be positioned in a bottom horizontal discharge position only. A duct that diverts the fan discharge shall not exceed 3 times the diameter of the fan outlets connected to the fan outlet. The duct shall be provided with an adequate drain opening at the lowest point to permit drainage of grease to a suitable collection device.

7. Fire extinguishers. Shop drawings shall be submitted to DCLU for Fire Department approval prior to field installation.

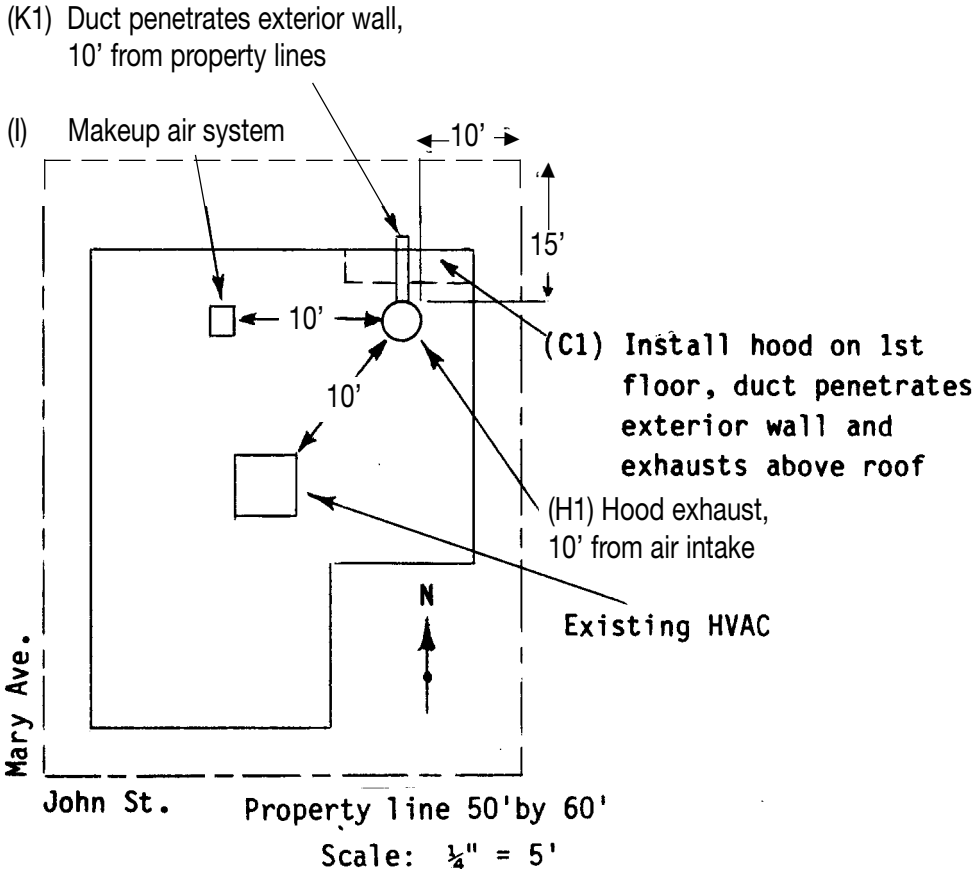
References

1) Seattle Mechanical Code 1997
2) Director's Rule 5-96
3) Seattle Building Code 1997

Example 1

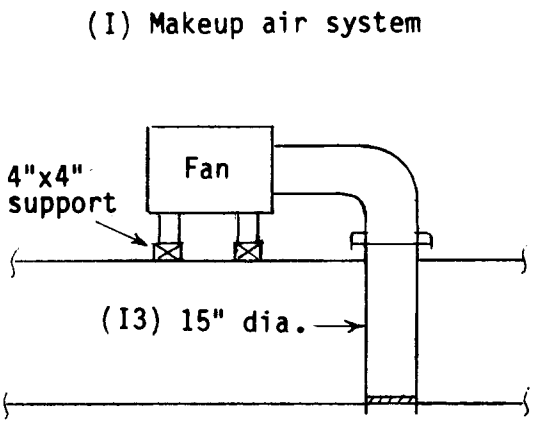
Mechanical Plot Plan

1. Identification of adjacent streets, property and alleys.
2. Any easements that cross the property or other pertinent legal features.
3. Property line and property dimension.
4. Location, size and shape of any structure present on site and proposed for construction.
5. A North arrow and scale.
6. Locate and describe the job. Show location of hood, hood exhaust and supply, existing HVAC, and HVAC exhaust and supply.

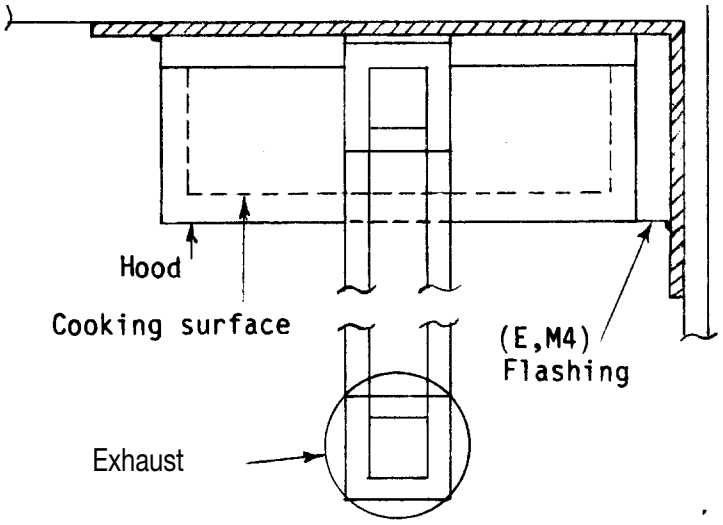


Example 2

Elevation View of Makeup Air System



Plan View of Hood System



Example 3

Elevation Views of Hood System